

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Original)

A substrate treatment method comprising:

the droplet generating step of generating droplets of a treatment liquid by mixing the treatment liquid with a gas, the treatment liquid droplets having a volume median diameter of $5\mu\text{m}$ to $40\mu\text{m}$; and

the step of causing the treatment liquid droplets generated in the droplet generating step to impinge on a surface of a substrate being treated.

Claim 2 (Original)

A substrate treatment method as set forth in claim 1, wherein the volume median diameter of the treatment liquid droplets is 10mm to 16mm.

Claim 3 (Original)

A substrate treatment method as set forth in claim 2, wherein the gas is supplied at a flow rate of 58 liters/min to 78 liters/min for collision with the treatment liquid in the droplet generating step.

Claim 4 (Original)

A substrate treatment method as set forth in claim 3, wherein the treatment liquid is supplied at a flow rate of about 100 ml/min for collision with the gas in the droplet generating step.

Claims 5-13 (Canceled)

Claim 14 (New)

A substrate treatment method comprising:

a droplet generating step of generating droplets of a treatment liquid by mixing the treatment liquid with a gas, the treatment liquid droplets having a volume median diameter of $5\mu\text{m}$ to $40\mu\text{m}$; and

a step of causing the treatment liquid droplets generated in the droplet generating step to impinge on a surface of a substrate being treated,

wherein the volume median diameter is a liquid droplet diameter selected such that a sum of volumes of liquid droplets having diameters greater than the selected liquid droplet diameter accounts for 50% of the total volume of all observed liquid droplets and a sum of volumes of liquid droplets having diameters smaller than the selected liquid droplet diameter accounts for 50% of the total volume of all observed liquid droplets.

Claim 15 (New)

A substrate treatment method as set forth in claim 14, wherein the volume median diameter of the treatment liquid droplets is $10\mu\text{m}$ to $16\mu\text{m}$.

Claim 16 (New)

A substrate treatment method as set forth in claim 15, wherein the gas is supplied at a flow rate of 58 liters/min to 78 liters/min for collision with the treatment liquid in the droplet generating step.

Claim 17 (New)

A substrate treatment method as set forth in claim 16, wherein the treatment liquid is supplied at a flow rate of about 100 ml/min for collision with the gas in the droplet generating step.

Claim 18 (New)

A substrate treatment method as set forth in claim 1, wherein the droplet generating step includes the step of generating the droplets of the treatment liquid by using a bifluid nozzle having:

a casing;

a liquid outlet port for discharging a treatment liquid; and

a gas outlet port for discharging a gas;

wherein the bifluid nozzle is adapted to introduce the treatment liquid and the gas into the casing, generate the droplets of the treatment liquid by spraying the gas discharged from the gas outlet port over the treatment liquid discharged from the liquid outlet port outside the casing, and the spout the droplets on the surface of the substrate.

Claim 19 (New)

A substrate treatment method as set forth in claim 14, wherein the droplet generating step includes the step of generating the droplets of the treatment liquid by using a bifluid nozzle having:

a casing;

a liquid outlet port for discharging a treatment liquid; and

a gas outlet port for discharging a gas;

wherein the bifluid nozzle is adapted to introduce the treatment liquid and the gas into the casing, generate the droplets of the treatment liquid by spraying the gas discharged from the gas outlet port over the treatment liquid discharged from the liquid outlet port outside the casing, and the spout the droplets on the surface of the substrate.